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REMARKS

This response is intended as a full and complete response to the final Office Action mailed July 13, 2005. In the Office Action, the Examiner notes that claims 1-9, 19 and 21-24 are pending, of which claims 1-9, 19 and 21-24 are rejected.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103.

Rejection under 35 U.S.C. §103

A. Claims 1-6, 19, 22 and 23

The Examiner has rejected claims 1-6, 19, 22 and 23 under 35 U.S.C. 103(a) as being unpatentable over Ueno et al. (US006438596B1, hereinafter "Ueno") in view of Hokanson (US006094680A, hereinafter "Hokanson"). The Applicants respectfully traverse the rejection.

In general, Ueno teaches a video on demand system that presents users with a selection list of proposed videos for which server and network resources are available to immediately serve the selection video. A service control unit determines whether server and network resources are available by sending separate queries to server and network resources management control units. (Ueno, Abstract) In particular, Ueno teaches a hierarchical system of video servers including at least one center server and at least one local server. The local servers store video sources with a high expected access frequency. The center servers store video sources with a low expected access frequency. (Ueno, Col. 18, Lines 6-12).

Ueno, however, fails to teach or suggest each and every element of Applicants' invention of at least claim 1. Namely, Ueno fails to teach or suggest at least the limitations of "a plurality of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of

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servers," as taught in Applicants' invention of at least claim 1. Specifically, Applicants' claim 1 positively recites:

"In an interactive information distribution system including a network of provider equipment and subscriber equipment, apparatus comprising:
a plurality of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of servers; and

a manager, coupled to each of said plurality of servers for routing video assets between said servers in response to video asset requests, and for migrating video assets between storage partitions in response to a video asset request rate traversing a threshold rate."

[Emphasis added.]

As such, as taught in Applicants' invention of at least claim 1, each of the servers in the plurality of servers is partitioned such that each server has a primary storage partition for storing frequently requested video assets and a secondary storage partition for storing infrequently requested video assets. In other words, Applicants' invention teaches partitioning of each of the individual servers. Furthermore, Applicants' invention teaches dividing and selectively distributing infrequently requested video assets amongst the respective secondary partitions of each of the plurality of servers.

By contrast, Ueno teaches partitioning of a network. As taught in Ueno, the network is partitioned according to respective locations of the servers. In particular, Ueno teaches partitioning of individual servers such that each server has a first partition and a second partition. Rather, Ueno teaches partitioning of a network such that videos with an expected high frequency of access are stored in local servers (not within respective first partitions of all servers) and videos with an expected low frequency of access are stored in central servers (not within respective second partitions of all servers). The partitioning of a network of servers such that videos of a first category are stored on servers of a first type and videos of a second category are stored on servers of a second type, as taught in Ueno, is simply not partitioning of each of a plurality of servers such that video assets of a first category are stored in respective first partitions of each of the plurality of servers and video assets of a second category are stored in

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respective second partitions of each of the plurality of servers, as taught in Applicants' invention of at least claim 1.

Furthermore, even if Ueno did teach partitioning of servers (which Applicants maintain it does not), Ueno would still fail to teach or suggest Applicants' invention of at least claim 1. The Applicants' invention of at least claim 1 teaches that the partitioning of each of the servers is performed according to the frequency with which the video assets are requested. By contrast, Ueno teaches that the partitioning of the network is performed according to an expected frequency with which videos are accessed. In particular, Ueno states that "the local server stores video sources, which are expected that the frequency in access is high...the center server stores video sources, which are expected that the frequency in access is low." The partitioning of a network according to an expected access frequency, as taught in Ueno, is simply not partitioning each of a plurality of servers according to a request frequency, as taught in Applicants' invention of at least claim 1.

In the Office Action, the Examiner correctly concedes that Ueno does not teach migrating the infrequently requested assets to a secondary storage partition on each of the plurality of servers. (Office Action, Pg. 2). As such, the Examiner cites Hokanson for teaching migration of infrequently requested video assets to secondary storage positions of respective servers. The Applicants maintain, however, that Hokanson fails to bridge the substantial gap between Ueno and Applicants' invention of at least claim 1.

In general, Hokanson teaches a system for managing distributed resources on a network. A network manager balances the allocation of network resources among network cities for making the resources available to users against the cost required to make the resources available to the users. (Hokanson, Abstract). Hokanson, however, fails to teach or suggest at least the limitations of "a plurality of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed

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amongst said secondary partitions of said plurality of servers," as taught in Applicants' invention of at least claim 1.

Rather, Hokanson teaches a hierarchical resource storage structure that is implemented as a collection of heterogeneous storage devices. As taught in Hokanson, as certain video content is requested more regularly in comparison to other content, the highly requested content might be moved to a higher performing device. Similarly, less requested content might be moved to a lower performing device. As such, Hokanson teaches network partitioning (not the server partitioning taught in Applicants' invention of at least claim 1). As taught in Hokanson, a network is partitioned such that highly requested content is stored on higher performing devices while less requested content is stored on lower performing devices. There is no teaching or suggestion in Hokanson for partitioning any of the higher performing device or lower performing devices such that both device types may store different categories of video content in different partitions.

Thus, the partitioning of a network of servers such that videos of a first category are stored on devices of a first type and videos of a second category are stored on devices of a second type, as taught in Hokanson, is simply not partitioning of each of a plurality of servers such that video assets of a first category are stored in respective first partitions of each of the plurality of servers and video assets of a second category are stored in respective second partitions of each of the plurality of servers, as taught in Applicants' invention of at least claim 1. Furthermore, Hokanson is completely devoid of any teaching or suggestion that of partitioning of each of a plurality of servers such that frequently requested video assets are stored in respective first partitions of each of the plurality of servers and infrequently requested video assets are stored in respective second partitions of each of the plurality of servers.

As such, since Hokanson fails to teach or suggest that each of the plurality of servers has a primary storage position for storing frequently requested video assets and a secondary storage position for storing a portion of infrequently requested video assets, Hokanson must also fail to teach or suggest that the infrequently requested video assets are divided and selectively distributed amongst the secondary portions of the servers, as taught in Applicants' invention of at least claim 1. Furthermore, even if

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Hokanson did teach partitioned servers according to Applicants' invention of at least claim 1 (which Applicants maintain it does not), Hokanson would still fail to teach or suggest that infrequently requested video assets are divided and selectively distributed amongst the secondary portions of the plurality of servers.

Rather, Hokanson teaches that infrequent movies "that are rarely or never requested can be removed from the video storage 138 and archived in off-line storage facilities to free up space for the multiple copies of the hot new movie." (Hokanson, Col. 11, Lines 25-29). In other words, Hokanson does not teach that infrequently requested videos are distributed amongst a plurality of servers, much less amongst specific partitions associated with of the plurality of servers. As taught in Hokanson, infrequently requested videos are stored in off-line storage facilities. Since an off-line storage facility simply cannot respond to user requests for videos, the off-line storage facilities cannot operate as servers. Thus, Hokanson simply cannot teach that infrequently request movies are distributed amongst specific partitions associated with each server in a plurality of servers. Therefore, Hokanson fails to teach or suggest at least the limitation of "said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of servers," as taught in Applicants' invention of at least claim 1.

Moreover, even if Ueno and Hokanson could somehow be operably combined, the combined references would merely disclose a network of storage devices in which the network is partitioned according to location and storage device type. Ueno teaches partitioning of a network of servers such that videos of a first category are stored on servers of a first type and videos of a second category are stored on servers of a second type, where the server types depend upon location (i.e., local servers versus center servers). Hokanson teaches partitioning of a network such that highly requested content is stored on higher performing devices while less requested content is stored on lower performing devices. As such, a combination of Ueno and Hokanson would still teach partitioning of a network where the partitioning of the network is based on both location (see Ueno) and device type (see Hokanson). Thus, the combination of Ueno and Hokanson simply does not teach partitioning of each of a plurality of servers such that video assets of a first category are stored in respective first partitions of each of the

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plurality of servers and video assets of a second category are stored in respective second partitions of each of the plurality of servers.

In other words, since servers are not partitioned in Ueno, and servers are not partitioned in Hokanson, a combination of Ueno and Hokanson simply cannot teach partitioning of servers in accordance with Applicants' invention of at least claim 1. As such, since the combination of Ueno and Hokanson cannot teach partitioning of servers, the combination of Ueno and Hokanson also cannot teach at least the limitations of "each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of servers," as taught in Applicants' invention of at least claim 1. Therefore, Ueno and Hokanson, alone or in combination, fail to teach or suggest the Applicants' invention as a whole.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather, the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). Ueno and Hokanson, alone or in combination, fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, independent claim 19 recites features substantially similar to the features of claim 1. Thus, for at least the same reasons discussed above with respect to claim 1, Applicants submit that independent claim 19 is also not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

As such, the Applicants submit that independent claims 1 and 19 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 2-6, and 22 and 23 depend, either directly or indirectly, from

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independent claims 1 and 19, and recite similar features thereof. As such, and at least for the same reasons as discussed above, the Applicants submit that claims 2-6, 22 and 23 are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the rejections be withdrawn.

B. Claims 7-9 and 24

The Examiner has rejected claims 7-9 and 24 as being unpatentable over Ueno and Hokanson as applied to claims 6 and 23 above, and further in view of Kikinis (US006163795A, hereinafter "Kikinis"). The Applicants respectfully traverse the rejection.

For at least the reasons set forth above, the Applicants submit that independent claims 1 and 19 are not obvious in view of the combination of Ueno and Hokanson. Furthermore, claims 7-9 and 24 depend, directly or indirectly, from independent claims 1 and 19, and recite additional features therefor. As such, for at least the same reasons as discussed above, the Applicants submit that dependent claims 7-9 and 24 are also not obvious in view of the combination of Ueno and Hokanson. Furthermore, Kikinis fails to bridge the substantial gap between Ueno and Hokanson and Applicants' invention of at least claim 1.

In general, Kikinis teaches a service for delivering, on demand, locally accessed video to client devices. The service includes a plurality of client stations adapted for receiving and playing videos from file servers. (Kikinis, Abstract). In particular, each file server with a video input apparatus accepts video clips from a video input apparatus, stores the clippings in a database, and shares the clippings with other file servers. (Kikinis, Col. 2, Lines 21-24). As taught in Kikinis, the file servers automatically transmit newly downloaded locally-accessed video entities to each of the plurality of file servers on the network through WAN connections, store details of various interests provided by clients, notify connected clients of new video entities available, and transmit selected video entities to at least one of the client stations.

Kikinis, however, fails to teach or suggest each and every element of Applicants' invention. Namely, Kikinis fails to teach or suggest at least the limitations of "a plurality

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of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of servers," as taught in Applicants' invention of at least claim 1.

Rather, from at least the portions of Kikinis described above, it is clear that Kikinis is primarily directed towards distribution of video entities to the file servers using various WAN connections, as well as tailoring the video content that is made available to the client using information provided by the clients regarding the video content that the clients are interested in receiving from the file servers. Kikinis is completely devoid of any teaching or suggestion of partitioning each of a plurality of servers into a primary storage partition and a secondary storage partition. Furthermore, Kikinis is completely devoid of any teaching or suggestion that the first storage partitions store frequently requested video assets and the second storage partitions store infrequently requested video assets. Thus, Kikinis fails to teach or suggest Applicants' invention as a whole.

As such, Ueno, Hokanson, and Kikinis, alone or in combination, fail to teach or suggest the Applicants' invention as a whole. Thus, Applicants submit that independent claims 1 and 19 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 7-9 and 24 depend, either directly or indirectly, from independent claims 1 and 19, and recite additional features therefor. As such, Applicants submit that claims 7-9 and 24 are not obvious and fully satisfy the requirements of 35 U.S.C. §103. Therefore, the Applicants respectfully request that the rejection be withdrawn.

C. Claim 21

The Examiner has rejected claim 21 as being unpatentable over Ueno and Hokanson as applied to claim 19 above, and further in view of Kenner (US006269394B1, hereinafter "Kenner"). The Applicants respectfully traverse the rejection.

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For at least the reasons set forth above, the Applicants submit that independent claim 19 is not obvious in view of the combination of Ueno and Hokanson. Furthermore, claim 21 depends from independent claim 19 and recites additional features therefor. As such, for at least the same reasons as discussed above, the Applicants submit that dependent claim 21 is also not obvious in view of the combination of Ueno and Hokanson. Furthermore, Kenner fails to bridge the substantial gap between Ueno and Hokanson and Applicants' invention of at least claim 1.

In general, Kenner teaches a video clip storage and retrieval system in which video clips may be stored locally or at remote locations, and may be requested and retrieved by a user via an associated multimedia terminal. (Kenner, Abstract). In particular, Kenner teaches that the system further includes means for uploading and distributing clips to geographically diverse servers, dynamic load balancing, and subscription management mechanisms. Kenner, however, fails to teach or suggest each and every element of Applicants' invention. Namely, Kenner fails to teach or suggest at least the limitations of "a plurality of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing frequently requested video assets, each of said servers having a secondary storage partition for storing a portion of infrequently requested video assets, said infrequently requested video assets being divided and selectively distributed amongst said secondary partitions of said plurality of servers," as taught in Applicants' invention of at least claim 1.

Rather, from at least the portions of Kenner described above, it is clear that Kenner is primarily directed towards retrieval of comprehensive data from one or more databases in response to requests from a user multimedia terminal. Kenner merely teaches the partitioning of a system based on the features important to the operation and the maintenance of the system. (Kenner, Col. 4, Lines 47-53). Kenner does not teach partitioning of each of a plurality of servers into a primary storage partition and a secondary storage partition. As such, Kenner must be completely devoid of any teaching or suggestion that the first storage partitions store frequently requested video assets and the second storage partitions store infrequently requested video assets. Furthermore, Kenner must also be completely devoid of any teaching or suggestion of dividing and

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selectively distributing video assets amongst said secondary partitions of said plurality of servers. Thus, Kenner fails to teach or suggest Applicants' invention as a whole.

As such, Ueno, Hokanson, and Kenner, alone or in combination, fail to teach or suggest the Applicants' invention as a whole. Thus, Applicants submit that independent claims 1 and 19 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore,

As such, the Ueno, Hokanson and Kenner references fail to teach or suggest the Applicants' invention as a whole. Furthermore, claim 21 depends from independent claim 19, and recites additional features therefor. As such, the Applicants submit that claim 21 is not obvious and fully satisfies the requirements of 35 U.S.C. §103.

Therefore, the Applicants respectfully request that the rejection be withdrawn.

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CONCLUSION

Thus, Applicants submit that none of the claims, presently in the application, is anticipated or obvious under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 8/30/05



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